



# The periodic table

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Hydrogen 1 <b>H</b> 1.008																	Helium 2 <b>He</b> 4.0026	
Lithium 3 <b>Li</b> 6.94	Beryllium 4 <b>Be</b> 9.0122											Boron 5 <b>B</b> 10.81	Carbon 6 <b>C</b> 12.011	Nitrogen 7 <b>N</b> 14.007	Oxygen 8 <b>O</b> 15.999	Fluorine 9 <b>F</b> 18.998	Neon 10 <b>Ne</b> 20.180	
Sodium 11 <b>Na</b> 22.990	Magnesium 12 <b>Mg</b> 24.305											Aluminium 13 <b>Al</b> 26.982	Silicon 14 <b>Si</b> 28.085	Phosphorus 15 <b>P</b> 30.974	Sulfur 16 <b>S</b> 32.06	Chlorine 17 <b>Cl</b> 35.45	Argon 18 <b>Ar</b> 39.948	
Potassium 19 <b>K</b> 39.098	Calcium 20 <b>Ca</b> 40.078(4)	Scandium 21 <b>Sc</b> 44.956	Titanium 22 <b>Ti</b> 47.867	Vanadium 23 <b>V</b> 50.942	Chromium 24 <b>Cr</b> 51.996	Manganese 25 <b>Mn</b> 54.938	Iron 26 <b>Fe</b> 55.845(2)	Cobalt 27 <b>Co</b> 58.933	Nickel 28 <b>Ni</b> 58.693	Copper 29 <b>Cu</b> 63.546(3)	Zinc 30 <b>Zn</b> 65.38(2)	Gallium 31 <b>Ga</b> 69.723	Germanium 32 <b>Ge</b> 72.630(8)	Arsenic 33 <b>As</b> 74.922	Selenium 34 <b>Se</b> 78.971(8)	Bromine 35 <b>Br</b> 79.904	Krypton 36 <b>Kr</b> 83.798(2)	
Rubidium 37 <b>Rb</b> 85.468	Strontium 38 <b>Sr</b> 87.62	Yttrium 39 <b>Y</b> 88.906	Zirconium 40 <b>Zr</b> 91.224(2)	Niobium 41 <b>Nb</b> 92.906(2)	Molybdenum 42 <b>Mo</b> 95.95	Technetium 43 <b>Tc</b> [98.906]	Ruthenium 44 <b>Ru</b> 101.07(2)	Rhodium 45 <b>Rh</b> 102.91	Palladium 46 <b>Pd</b> 106.42	Silver 47 <b>Ag</b> 107.87	Cadmium 48 <b>Cd</b> 112.41	Indium 49 <b>In</b> 114.82	Tin 50 <b>Sn</b> 118.71	Antimony 51 <b>Sb</b> 121.76	Tellurium 52 <b>Te</b> 127.60(3)	Iodine 53 <b>I</b> 126.90	Xenon 54 <b>Xe</b> 131.29	
Caesium 55 <b>Cs</b> 132.91	Barium 56 <b>Ba</b> 137.33	57-70 *	Lutetium 71 <b>Lu</b> 174.97	Hafnium 72 <b>Hf</b> 178.49(2)	Tantalum 73 <b>Ta</b> 180.95	Tungsten 74 <b>W</b> 183.84	Rhenium 75 <b>Re</b> 186.21	Osmium 76 <b>Os</b> 190.23(2)	Iridium 77 <b>Ir</b> 192.22	Platinum 78 <b>Pt</b> 195.08	Gold 79 <b>Au</b> 196.97	Mercury 80 <b>Hg</b> 200.59	Thallium 81 <b>Tl</b> 204.38	Lead 82 <b>Pb</b> 207.2	Bismuth 83 <b>Bi</b> 208.98	Polonium 84 <b>Po</b> [208.98]	Astatine 85 <b>At</b> [209.99]	Radon 86 <b>Rn</b> [222.02]
Francium 87 <b>Fr</b> [223.02]	Radium 88 <b>Ra</b> [226.03]	89-102 **	Lanthanum 103 <b>Lr</b> [262.11]	Rutherfordium 104 <b>Rf</b> [267.12]	Dubnium 105 <b>Db</b> [270.13]	Seaborgium 106 <b>Sg</b> [269.13]	Bohrium 107 <b>Bh</b> [270.13]	Hassium 108 <b>Hs</b> [270.13]	Meitnerium 109 <b>Mt</b> [278.16]	Darmstadtium 110 <b>Ds</b> [281.17]	Roentgenium 111 <b>Rg</b> [281.17]	Copernicium 112 <b>Cn</b> [285.18]	Nihonium 113 <b>Nh</b> [286.18]	Flerovium 114 <b>Fl</b> [289.19]	Moscovium 115 <b>Mc</b> [289.19]	Livermorium 116 <b>Lv</b> [293.20]	Tennesseium 117 <b>Ts</b> [293.21]	Oganesson 118 <b>Og</b> [294.21]

Key:

Element Name
Atomic number
<b>Symbol</b>
Atomic weight (mean relative mass)

Lanthanum 57 <b>La</b> 138.91	Cerium 58 <b>Ce</b> 140.12	Praseodymium 59 <b>Pr</b> 140.91	Neodymium 60 <b>Nd</b> 144.24	Promethium 61 <b>Pm</b> [144.91]	Samarium 62 <b>Sm</b> 150.36(2)	Europium 63 <b>Eu</b> 151.96	Gadolinium 64 <b>Gd</b> 157.25(3)	Terbium 65 <b>Tb</b> 158.93	Dysprosium 66 <b>Dy</b> 162.50	Holmium 67 <b>Ho</b> 164.93	Erbium 68 <b>Er</b> 167.26	Thulium 69 <b>Tm</b> 168.93	Ytterbium 70 <b>Yb</b> 173.05
Actinium 89 <b>Ac</b> [227.03]	Thorium 90 <b>Th</b> 232.04	Protactinium 91 <b>Pa</b> 231.04	Uranium 92 <b>U</b> 238.03	Neptunium 93 <b>Np</b> [237.05]	Plutonium 94 <b>Pu</b> [244.06]	Americium 95 <b>Am</b> [243.06]	Curium 96 <b>Cm</b> [247.07]	Berkelium 97 <b>Bk</b> [247.07]	Californium 98 <b>Cf</b> [251.08]	Einsteinium 99 <b>Es</b> [252.08]	Fermium 100 <b>Fm</b> [257.10]	Mendelevium 101 <b>Md</b> [258.10]	Nobelium 102 <b>No</b> [259.10]

\*lanthanoids

\*\*actinoids

**Symbols and names:** the symbols and names of the elements, and their spellings are those recommended by the International Union of Pure and Applied Chemistry (IUPAC - <http://www.iupac.org/>). In some countries, the spellings **aluminum**, **cesium**, and **sulphur** are usual.

**Group labels:** the numeric system (1–18) used here is the current IUPAC convention.

**Atomic weights (mean relative masses):** these are the IUPAC 2013 values and given to 5 significant figures. The last significant figure of each value is considered reliable to  $\pm 1$  except where a larger uncertainty is given in parentheses. IUPAC representative values are given for those elements having an atomic weight interval (H, Li, B, C, N, O, Si, S, Cl, Ti). Elements for which the atomic weight is listed within square brackets have no stable nuclides and are represented by the element's longest lived isotope reported in the IUPAC 2013 values except Tc for which the value of Tc-99 given as that is the most commonly used isotope.